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TECH CENTER 1600/2900

1600

RAW SEQUENCE LISTING   DATE: 11/21/2003
PATENT APPLICATION: US/09/877,695   TIME: 11:07:44

Input Set : A:\16380-002001.txt
Output Set: N:\CRF4\11212003\I877695.raw

```
 4 <110> APPLICANT: Desjarlais, John R.
 6 <120> TITLE OF INVENTION: APPARATUS AND METHOD FOR DESIGNING
 7       PROTEINS AND PROTEIN LIBRARIES
 9 <130> FILE REFERENCE: 16380-002001
11 <140> CURRENT APPLICATION NUMBER: US 09/877,695
12 <141> CURRENT FILING DATE: 2001-06-08
14 <150> PRIOR APPLICATION NUMBER: US 60/266,711
15 <151> PRIOR FILING DATE: 2001-02-06
17 <160> NUMBER OF SEQ ID NOS: 4
19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 34
23 <212> TYPE: PRT
24 <213> ORGANISM: Artificial Sequence
26 <220> FEATURE:
27 <223> OTHER INFORMATION: exemplary motif
29 <400> SEQUENCE: 1
30 Ser Leu Pro Ser Gly Trp Thr Gln Leu Thr Lys Ala Ser Asp Asp Thr
31 1               5                   10                  15
32 Thr Tyr Tyr Tyr Asn Lys Thr Thr Asp Val Val Thr Asn Thr Arg Pro
33             20                  25                  30
34 Thr Asp
37 <210> SEQ ID NO: 2
38 <211> LENGTH: 34
39 <212> TYPE: PRT
40 <213> ORGANISM: Artificial Sequence
42 <220> FEATURE:
43 <223> OTHER INFORMATION: exemplary motif
```
W--> 45 <221> NAME/KEY: VARIANT
```
46 <222> LOCATION: 1
47 <223> OTHER INFORMATION: Xaa = Ser, Asn, or Asp
```
W--> 49 <221> VARIANT
```
50 <222> LOCATION: 8
51 <223> OTHER INFORMATION: Xaa = Gln, Lys, Pro, Val, Glu, or Arg
```
W--> 53 <221> VARIANT
```
54 <222> LOCATION: 10
55 <223> OTHER INFORMATION: Xaa = Thr or Lys
```
W--> 57 <221> VARIANT
```
58 <222> LOCATION: 12
59 <223> OTHER INFORMATION: Xaa = Ala or Ser
```
W--> 61 <221> VARIANT
```
62 <222> LOCATION: 13
63 <223> OTHER INFORMATION: Xaa = Ser or Gly
```

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RAW SEQUENCE LISTING   DATE: 11/21/2003
PATENT APPLICATION: **US/09/877,695**   TIME: 11:07:44

Input Set : **A:\16380-002001.txt**
Output Set: **N:\CRF4\11212003\I877695.raw**

```
W--> 65 <221> VARIANT
     66 <222> LOCATION: 15
     67 <223> OTHER INFORMATION: Xaa = Asp, Asn, Glu, or Ser
W--> 69 <221> VARIANT
     70 <222> LOCATION: 22
     71 <223> OTHER INFORMATION: Xaa = Lys or Gln
W--> 73 <221> VARIANT
     74 <222> LOCATION: 24
     75 <223> OTHER INFORMATION: Xaa = Thr or Ser
W--> 77 <221> VARIANT
     78 <222> LOCATION: 25
     79 <223> OTHER INFORMATION: Xaa = Asp or Asn
W--> 81 <221> VARIANT
     82 <222> LOCATION: 27
     83 <223> OTHER INFORMATION: Xaa = Val or Lys
W--> 85 <221> VARIANT
     86 <222> LOCATION: 31
     87 <223> OTHER INFORMATION: Xaa = Arg, Asn, or Gln
W--> 89 <221> VARIANT
     90 <222> LOCATION: 34
     91 <223> OTHER INFORMATION: Xaa = Asp or Asn
W--> 93 <400> 2
W--> 94 Xaa Leu Pro Ser Gly Trp Thr Xaa Leu Xaa Lys Xaa Xaa Asp Xaa Thr
     95 1               5                   10                  15
     96 Thr Tyr Tyr Tyr Asn Xaa Thr Xaa Xaa Val Xaa Thr Asn Thr Xaa Pro
     97             20                  25                  30
     98 Thr Xaa
    101 <210> SEQ ID NO: 3
    102 <211> LENGTH: 34
    103 <212> TYPE: PRT
    104 <213> ORGANISM: Artificial Sequence
    106 <220> FEATURE:
    107 <223> OTHER INFORMATION: exemplary motif
W--> 109 <221> NAME/KEY: VARIANT
    110 <222> LOCATION: 1
    111 <223> OTHER INFORMATION: Xaa = Ser, Asn, Asp, or Glu
W--> 113 <221> VARIANT
    114 <222> LOCATION: 8
    115 <223> OTHER INFORMATION: Xaa = Gln, Lys, Pro, Val, Glu, Arg, or Asn
W--> 117 <221> VARIANT
    118 <222> LOCATION: 9
    119 <223> OTHER INFORMATION: Xaa = Leu or Gln
W--> 121 <221> VARIANT
    122 <222> LOCATION: 10
    123 <223> OTHER INFORMATION: Xaa = Thr or Lys
W--> 125 <221> VARIANT
    126 <222> LOCATION: 12
    127 <223> OTHER INFORMATION: Xaa = Ala or Ser
W--> 129 <221> VARIANT
```

RAW SEQUENCE LISTING   DATE: 11/21/2003
PATENT APPLICATION: US/09/877,695   TIME: 11:07:44

Input Set : A:\16380-002001.txt
Output Set: N:\CRF4\11212003\I877695.raw

```
      130 <222> LOCATION: 13
      131 <223> OTHER INFORMATION: Xaa = Ser or Gly
W--> 133 <221> VARIANT
      134 <222> LOCATION: 14, 25, 29, 34
      135 <223> OTHER INFORMATION: Xaa = Asp or Asn
W--> 137 <221> VARIANT
      138 <222> LOCATION: 15
      139 <223> OTHER INFORMATION: Xaa = Asp, Asn, Glu, or Ser
W--> 141 <221> VARIANT
      142 <222> LOCATION: 16
      143 <223> OTHER INFORMATION: Xaa = Thr or Ser
W--> 145 <221> VARIANT
      146 <222> LOCATION: 17
      147 <223> OTHER INFORMATION: Xaa = Thr or Val
W--> 149 <221> VARIANT
      150 <222> LOCATION: 19
      151 <223> OTHER INFORMATION: Xaa = Tyr or Phe
W--> 153 <221> VARIANT
      154 <222> LOCATION: 22
      155 <223> OTHER INFORMATION: Xaa = Lys, Gln, or Glu
W--> 157 <221> VARIANT
      158 <222> LOCATION: 24
      159 <223> OTHER INFORMATION: Xaa = Thr or Ser
W--> 161 <221> VARIANT
      162 <222> LOCATION: 26
      163 <223> OTHER INFORMATION: Xaa = Val, Thr, or Gln
W--> 165 <221> VARIANT
      166 <222> LOCATION: 27
      167 <223> OTHER INFORMATION: Xaa = Val, Lys, or Thr
W--> 169 <221> VARIANT
      170 <222> LOCATION: 28
      171 <223> OTHER INFORMATION: Xaa = Thr or Gln
W--> 173 <221> VARIANT
      174 <222> LOCATION: 31
      175 <223> OTHER INFORMATION: Xaa = Arg, Asn, or Gln
W--> 177 <400> 3
W--> 178 Xaa Leu Pro Ser Gly Trp Thr Xaa Xaa Xaa Lys Xaa Xaa Xaa Xaa Xaa
      179  1               5                  10                  15
      180 Xaa Tyr Xaa Tyr Asn Xaa Thr Xaa Xaa Xaa Xaa Xaa Xaa Thr Xaa Pro
      181           20                  25                  30
      182 Thr Xaa
      185 <210> SEQ ID NO: 4
      186 <211> LENGTH: 34
      187 <212> TYPE: PRT
      188 <213> ORGANISM: Artificial Sequence
      190 <220> FEATURE:
      191 <223> OTHER INFORMATION: exemplary motif
W--> 193 <221> NAME/KEY: VARIANT
      194 <222> LOCATION: 1
```

RAW SEQUENCE LISTING   DATE: 11/21/2003
PATENT APPLICATION: **US/09/877,695**   TIME: 11:07:44

Input Set : **A:\16380-002001.txt**
Output Set: **N:\CRF4\11212003\I877695.raw**

```
      195 <223> OTHER INFORMATION: Xaa = Ser, Asn, or Asp
W--> 197 <221> VARIANT
      198 <222> LOCATION: 8
      199 <223> OTHER INFORMATION: Xaa = Gln or Lys
W--> 201 <221> VARIANT
      202 <222> LOCATION: 10
      203 <223> OTHER INFORMATION: Xaa = Thr or Lys
W--> 205 <221> VARIANT
      206 <222> LOCATION: 12
      207 <223> OTHER INFORMATION: Xaa = Ala or Ser
W--> 209 <221> VARIANT
      210 <222> LOCATION: 13
      211 <223> OTHER INFORMATION: Xaa = Ser or Gly
W--> 213 <221> VARIANT
      214 <222> LOCATION: (14)...(15)
      215 <223> OTHER INFORMATION: Xaa = Asp or Asn
W--> 217 <221> VARIANT
      218 <222> LOCATION: 17
      219 <223> OTHER INFORMATION: Xaa = Thr or Val
W--> 221 <221> VARIANT
      222 <222> LOCATION: 19
      223 <223> OTHER INFORMATION: Xaa = Tyr or Phe
W--> 225 <221> VARIANT
      226 <222> LOCATION: 22
      227 <223> OTHER INFORMATION: Xaa = Lys or Gln
W--> 229 <221> VARIANT
      230 <222> LOCATION: 24
      231 <223> OTHER INFORMATION: Xaa = Thr or Ser
W--> 233 <221> VARIANT
      234 <222> LOCATION: 25
      235 <223> OTHER INFORMATION: Xaa = Asp or Asn
W--> 237 <221> VARIANT
      238 <222> LOCATION: 27
      239 <223> OTHER INFORMATION: Xaa = Val or Lys
W--> 241 <221> VARIANT
      242 <222> LOCATION: 28
      243 <223> OTHER INFORMATION: Xaa = Thr or Gln
W--> 245 <221> VARIANT
      246 <222> LOCATION: 31
      247 <223> OTHER INFORMATION: Xaa = Arg or Asn
W--> 249 <221> VARIANT
      250 <222> LOCATION: 34
      251 <223> OTHER INFORMATION: Xaa = Asp or Asn
W--> 253 <400> 4
W--> 254 Xaa Leu Pro Ser Gly Trp Thr Xaa Leu Xaa Lys Xaa Xaa Xaa Xaa Thr
      255  1               5                   10                  15
      256 Xaa Tyr Xaa Tyr Asn Xaa Thr Xaa Xaa Val Xaa Xaa Asn Thr Xaa Pro
      257               20                  25                  30
      258 Thr Xaa
```

RAW SEQUENCE LISTING ERROR SUMMARY　　DATE: 11/21/2003
PATENT APPLICATION:　**US/09/877,695**　　TIME: 11:07:45

Input Set : **A:\16380-002001.txt**
Output Set: **N:\CRF4\11212003\I877695.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 1,8,10,12,13,15,22,24,25,27,31,34
Seq#:3; Xaa Pos. 1,8,9,10,12,13,14,15,16,17,19,22,24,25,26,27,28,29,31,34
Seq#:4; Xaa Pos. 1,8,10,12,13,14,15,17,19,22,24,25,27,28,31,34

```
L:45 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:49 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:53 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:57 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:61 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:65 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:69 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:73 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:77 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:81 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:85 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:89 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:93 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:94 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
M:341 Repeated in SeqNo=2
L:109 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:113 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:117 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:121 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:125 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:129 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:133 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:137 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:141 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:145 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:149 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:153 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:157 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:161 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:165 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:169 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:173 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:177 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
M:341 Repeated in SeqNo=3
L:193 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:197 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:201 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:205 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:209 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:213 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:217 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:221 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:225 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:229 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:233 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:237 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:241 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
```

VERIFICATION SUMMARY   DATE: 11/21/2003
PATENT APPLICATION: **US/09/877,695**   TIME: 11:07:45

Input Set : **A:\16380-002001.txt**
Output Set: **N:\CRF4\11212003\I877695.raw**

```
L:245 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:249 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:253 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:254 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
M:341 Repeated in SeqNo=4
```